

DATE: February 21, 1989
TO: Charles Weems Attn: John Summers
FROM: Shirli Axelrod
SUBJECT: Spec. No. 2928 Tank Removal and Cleanup at Georgetown
Steam Plant

This memo addresses several matters Construction Engineering staff and I have been discussing in the past few days, and explains the need for certain changes to the spec.

Soil Sampling

1. I am attaching portions of a sampling report from 1984, when EAD's consultant took four soil borings next to the tanks. Soils from the west end of all three fuel tanks was composited (combined) at three different depths. The soil was described as sandy fill, easy to dig with hand tools. At 0-38 cm, (sample S-20) the soil was saturated with soil. From 38-76 cm and from 102-112 cm, the soil did not seem oily (S-19 and S-21). A deeper boring at the west end of the south fuel tank (not the diesel tank) was oily at 305 cm (sample S-5). These samples contained no PCB.

Given this and more recent sampling (results included in the spec.), I do not recommend any additional borings at this time. The evidence indicates oily soil can be expected in the excavation. The extent of oiliness can best be determined during excavation to remove the tanks, in my opinion.

Sampling will be necessary after the tanks are lifted out, as indicated in the spec. (p. 4, Section 02050). The condition of the soil upon visual inspection will dictate where and how many samples will be needed to direct the cleanup, as indicated in the spec. The estimated quantity of samples in the bid item cannot be used as a limit; this number of samples was not selected by EAD.

Any sampling, and lab analysis needed to carry out the Georgetown work should be a part of the contract and not done

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by an outside consultant to EAD. At the time of preparing the spec., EAD expressed its preference that all work be included in the single contract. Based on past experiences and conversations at the time, I believe this to be your preference as well. I see no reason to bring EAD's sampling consultant into the picture now.

If necessary, change the spec. to allow as much sampling and analysis as may be needed to complete the cleanup, with no penalty for SCL for time needed to evaluate test results. I attempted to put language to this effect in the spec. originally. Unit prices seems appropriate for this; if you need to estimate a quantity, estimate high.

2. Handling of soils suitable for Cedar Hills

Soils which contain high levels of oil are considered contaminated and may not be disposed of at Cedar Hills or other sanitary landfills. The soil sample results included in the spec. show contamination at Georgetown at these high levels (upwards of 10,000 ppm PAH). This oil contamination has nothing to do with PCBs.

The clearance official for King County, Steve Burke, has stated that soils over the North tank are unacceptable for Cedar Hills. (Telecon 2/15/89). Mr. Burke called me after Wilder Construction called him regarding these soils.

He and I have reached agreement on which soils from above the tanks can be taken to Cedar Hills without further testing and which cannot: soil from the northern edge of the excavation to the center line of the middle 12,000 gallon tank cannot go to Cedar Hills at this time (see attached diagram). The remaining soil on top of the tanks, including the diesel tank, can go directly to Cedar Hills. No decision can be made at this moment about soil beside and below the tanks.

Wilder should be reminded to submit to Steve Burke in writing the information on the soil for Cedar Hills (including the test results we provided in the spec.). This is necessary for clearance for disposal. He asks for two days lead time before the expected date of disposal at Cedar Hills. This responsibility is the contractor's according to the spec.

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3. Handling of soils unsuitable for Cedar Hills

Soil which is too oily for Cedar Hills is not correctly addressed in the spec., so a change will be needed. The language in the spec. (p. 2, Section 02220), stating oily soil will be disposed of at Cedar Hills, is incorrect because it is prohibited by King County, which operates Cedar Hills landfill. (See my memo to Ed Chu, 6/30/88, pp 2 & 3). Language to address the range of action - sampling, treatment, and disposition of soils - appropriate for a job like this was not put in the spec. per EAD's memo.

EAD prefers to treat such oil on site, rather than have it hauled to a hazardous waste landfill (such as Chem Securities in Arlington, Oregon or Enviro-safe in Idaho). Landfill disposal of such soil is very costly, and it is the method least preferred by the Washington Department of Ecology (DOE) and EAD because the hazardous material is not eliminated, only relocated.

The spec. does provide for segregation and containment of oily soil (p. 82, Section 01568). This is appropriate, and will allow us to negotiate treatment with the agencies.

Petroleum in oil can sometimes be treated, by taking advantage of natural processes. Sunlight, oxygen, and micro-organisms can break down the petroleum constituents, so soil may later be used as clean. However, these processes may require several weeks and some spreading and tilling of soil. Therefore I recommend that we ask the contractor for a price if it is not already in the spec. to segregate soil of an as-yet unknowable quantity in a contained manner (on plastic or the like, with hay or wood berm and weatherproof cover) adjacent to the north of the tank excavation.

I suggest the following changes to the contract, using unit prices:

- provide language and obtain price for the above scenario.
- provide language and obtain bid for removing oil-contaminated soil to a chemical waste landfill, including testing and paperwork, transport, and all tasks related to it. This is in case we cannot negotiate on-site treatment; it is not meant to say this soil will be hauled off-site.

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- temporarily stockpile oil soil, or spread and till it for aeration and then replace it in the hole. This is in case we can negotiate such an arrangement with Ecology, but it does not mean we will do this yet.

Clean, not oil-contaminated soil from the excavation should be kept separate from oily soil so it can be placed back in the hole when cleanup is finished. The spec. provides for this.

The amount of soil which may be oily is very difficult to guess. All I can suggest for an estimate is the total of soil to be excavated for removing the three fuel oil tanks, the one diesel tank, and all the associated piping.

It is important to understand that the quantity can only be guessed at: that is the nature of this type of job. Please phrase the changes to the spec. and requests to the contractor for price accordingly. We must expect additional changes if you choose some quantity for pricing purposes without flexibility for what turns out to be at the site. (Perhaps you can suggest a better device to address this situation in the contract.)

4. Piping

I think it may be appropriate to remind Wilder that the contract calls for flushing and removal of considerable piping at Georgetown, south of the building. Pipes can be expected to have leaked over the years, so soils around them will need to be handled appropriately, as above.

Please call me if you have questions about the matters in this memo.

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